TECHNICAL MANUAL

[*SGML Version See Change Record*]
MODULAR DISHWASHER

TWX 710-670-123

NSN	MODEL	APL/CID	FEED
7320-01-189-5059	60-20M-NSU	430070142	R.H.
7320-01-189-5060	60-20M-NSU	430070165	L.H.
7320-01-146-0994	85-20M-NSU	430070143	R.H.
7320-01-146-0995	85-20M-NSU	430070141	L.H.
7320-01-146-0996	135-20M-NSU	430070090	L.H.
7320-01-146-3325	135-20M-NSU	430070147	R.H.
7320-01-189-5061	185-20M-NSU	430070155	R.H.
7320-01-189-5062	185-20M-NSU	430070156	L.H.
7320-01-189-5063	250-20M-NSU	430070159	R.H.
7320-01-189-5064	250-20M-NSU	430070135	L.H.

RECORD OF CHANGES

NOTE

THIS TECHNICAL MANUAL (TM) HAS BEEN DEVELOPED FROM AN INTELLIGENT ELECTRONIC SOURCE KNOWN AS STANDARD GENERALIZED MARKUP LANGUAGE (SGML). THERE IS NO LOEP. ALL CHANGES, IF APPLICABLE, ARE INCLUDED. THE PAGINATION IN THIS TM WILL NOT MATCH THE PAGINATION OF THE ORIGINAL PAPER TM; HOWEVER, THE CONTENT IS EXACTLY THE SAME. ANY CHANGES RECEIVED AFTER RECEIPT OF THIS TM WILL ONLY FIT IN THIS PAGINATED VERSION.

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CHAPTER 1

DATA SHEET - MODULAR DISHWASHER FOR SHIPBOARD USE

CAPACITY:

60-20M-NSU= 60-20″ Racks/Hr.

85-20M-NSU= 85-20″ Racks/Hr.

135-20M-NSU=135-20″ Racks/Hr.

185-20M-NSU=185-20″ Racks/Hr.

250-20M-NSU=250-20″ Racks/Hr.

HAND OF FEED:

Right hand dishwasher has soiled dishware fed into right end and discharged from the left end. Left hand feed is opposite.

DIMENSION:

Consists of two modular sections approximately 24 1/2″ wide x 35″ long x 57″ high. Designed to allow movement through ship's passageways and through 26″ x 66″ door openings.

CONVEYOR:

This conveyor is designed for a single speed, starts to operate as soon as motor is turned on. To provide for safe operation of the conveyor, the mechanism is protected by a spring loaded overload arm. In the event of a jam by a for or other utensil, the spring will take up the load and prevent the conveyor from moving. In the event of a jam-up, depress ″stop″ button before attempting to clear the machine. After the jam is released the conveyor is restarted by pushing the start button. Conveyor chains are 1 1/2″ pitch, with one chain only being fitted with spacing lugs for the racks to prevent the dishbaskets from sliding in the event that the ship should pitch or roll.

FINAL RINSE:

Machine is fitted with a 180°F min. steam rinse or sterilizing spray. Temperature is controlled by a regulator in the final rinse heat booster. Dishes, after passing thru the final rinse spray, dry almost instantly. The temperature regulator is preset at the factory and requires no further adjustments.

THERMOSTATIC CUTOFF:

Final rinse booster is fitted with a thermostat, which automatically shuts off the machine in the event the temperature of the water in the booster falls below 180°F. Adjustment has been set before shipment of the machine in relation to the thermometer fitted to the rinse tank.

CAPACITY:

Final rinse is set for 5.0 gallons per minute. Tank capacity is 22 gallons each to overflow or skimmer line.

THERMOMETERS:

The thermometer which is mounted at the rinse end shows the temperature of the water in the final rinse line. The other thermometers show the temperature of the water in the wash and rinse tanks. They are marked accordingly.

TOOLS:

No special tools or wrenches are required. Spray pipes are designed to be easily removable for cleaning by hand. Wire cleanout brushes are provided for the spray tubes.

OPERATING PRESSURES:

A pressure reducing valve with line strainer is provided for the final rinse incoming line. Each tank is fitted with a pressure gauge to show the pressure of the pump circulating sprays. These are located on the headers for each pump and are marked to show proper operating pressure. If the pressure jumps, the spray system is clogged and should be cleaned.

WATER PUMP ASSEMBLIES:

The pumps are fitted with carbon seals, which are spring loaded and require no adjustment or attention. If a seal leaks, the usual cause is either the pump has been running without water or after a period of time it has eroded under the action of detergent. The pumps are fitted with drain cocks. However, do not, under any circumstances, run the motor and the pump if the pump is dry. It will ruin the seals.

MECHANICAL ADJUSTMENT:

To take up slack in the conveyor chains, loosen lock nut on tension bolts. Turn bolts to the right and then tighten the lock nuts.

USE OF DETERGENT:

Details of detergent types and amounts to be used are specified in BuShips Publication NavShips 250-522 titled, ″Operation and Maintenance of Dishwashing Machines.″ See page #3 of that publication for details when using hard or soft water.

CHAPTER 2

INSTALLATION INSTRUCTIONS

The Modular Dishwasher is shipped from the factory completely assembled. It must be partially disassembled so that the unit can be moved through the passageway and pass through a standard 26″x66″ hatch.

DISASSEMBLY PROCEDURE:

1. Locate the connecting links on the front and rear conveyor chain and break apart chains and remove from dishwasher.
2. Remove the hot water piping from the final rinse heat exchanger to top of dishwasher by ″breaking″ the two unions provided on this line, and removing the solenoid coil from the valve body.
3. Separate wash and rinse drain line by ″breaking″ the union.
4. Disconnect the wash tank from the rinse tank by unscrewing the nuts and bolts that connect the sections together. (Located inside machine).
5. Remove the four bolts that hold the base frame together. They are located in the inverted ″U″ shaped support that connects the base frame to the tank.
6. Remove the conveyor drive cover (located on front of dishwasher at rinse end).

The dishwasher can now be taken to the scullery area for reassembly and installation.

ASSEMBLY PROCEDURE:

1. Check that gaskets are properly in place. (All bolt holes should be showing).
2. Apply a liberal coating of permatex sealant (supplied with dishwasher). Align the two sections and bolt together taking care to fasten the sides alternately.

NOTE

(Round head screws are used on back vertical face of opening. All other faces use head hex screws).

3. Replace the final rinse line and solenoid valve coil.
4. Bolt the base frames together, reconnect drain line. Replace the drive chains. The chain with the drive lugs to be on rear track. Machine is now ready to be installed.

NOTE

The conveyor drive cover is replaced after machine is positioned and bolted to deck.

INSTALLATION:

1. The following services must be ″roughed in″ before machine is set into position.
   a. 3/4 IPS hot water to tank fills 140°F.

b. 3/4 IPS hot water to final rinse booster 140°F.
c. 3/4 IPS steam to booster 10 PSI Min.
d. 3/4 IPS steam to wash tank 10 PSI Min.
e. 3/4 IPS steam to rinse tank 10 PSI Min.
f. 1/2 IPS Condensate return-booster.
g. 1/2 IPS Condensate return-wash tank.
h. 1/2 IPS Condensate return-rinse tank.
i. 2″ IPS Drain
j. * 5 amp Electrical Connections, 440 volt, 3 phase, 60 hz.

2. Locate machine and check for level. Bolt to deck, using four 1/2″ bolts. Locate booster and bolt to deck using four 3/8″ bolts.
3. Connect steam condensate returns, water and drains to dishwasher.
4. Locate control box at easily accessible place on bulkhead and install conduit to junction box. Refer to wiring Diagram 312 for hookup. All terminals are marked. Run feed wires from 20 amp breaker to terminals marked ″L1″, ″L2″ and ″L3″ in control box. Connect wires from booster to junction box per wiring diagram.
5. Replace conveyor drive cover.
6. Run pump motors briefly to check for proper rotation as indicated by arrow on pump casing and Reverse ″L1″ and ″L2″ if rotation is wrong.

Dishwasher is now ready for operation after suitable tables and accessory equipment (detergent dispenser, rinse injector) is installed.

*Recommended 20 amp breaker to connect to bulkhead mounted control box.

CHAPTER 3

OPERATING INSTRUCTIONS

1. Close tank drain valve(s).
2. Check that all internal removable components are properly installed (suction strainers, scrap screens, spray manifolds, etc.).
3. Check that water and steam service valves are open and main electrical disconnect is ″ON″.
4. Pour one cup of sudsless detergent in wash tank or turn on detergent dispenser.
5. Open tank fill valve(s) (either manually or by turning tank fill switch to ″ON″ position when dishwasher is equipped with automatic tank fills). Allow approximately 3 1/2 minutes for tank(s) to fill, then close valve(s).
6. Open steam valve(s) at end(s) of dishwasher. If machine has a steam booster, open water and steam supply valves to booster. Allow sufficient time to heat water in tanks to desired operating temperatures (150° in wash tank, 160° in rinse tank). The dishwasher is now ready for operation.
7. Start machine by depressing ″START″ pushbutton.
8. Run dishware thru machine using standard racks.

CHAPTER 4

CLEANING INSTRUCTIONS

For the best results, your Insinger dishwasher should be cleaned after using. The simple steps outlined below will insure clean, sanitized dishware.

1. Before cleaning, shut off the steam, water and electrical supplies.
2. Open drain(s) and wait until tank(s) are empty.
3. Remove wash manifolds, rinse manifolds, scrap screens and suction strainers.
4. Clean dishwasher tank(s) preferably by using a hose. Be careful not to bend or twist any ball float arms. Wipe down inside of hood.
5. Clean and replace suction strainers.
6. Clean and replace scrap screens.
7. Clean all spray pipes using the brush provided with machine. The end caps must first be removed.
8. Replace caps and install manifolds in their proper positions.
9. Wipe down outside of hood.

It is sometimes necessary to remove lime deposits which may build up over a period of time. There are several excellent de-liming solutions on the market. Follow the instructions from the manufacturer.

CHAPTER 5

GENERAL INSTRUCTIONS

1. Remove scraps from all dishware before placing in racks.
2. Do not overload racks.
3. Shut off tank heat before draining tanks.
4. For best results, make sure spray pipes are kept clean.
5. Shut off water, steam and electric supply when machine is shut down over an extended period.

CHAPTER 6

BASIC SERVICE GUIDE

1. MACHINE WILL NOT OPERATE

a. Check power supply

b. Possible blown fuse or circuit breaker.

c. Power could be shut off at disconnect switch.

d. On units with manual reset overload protection, press reset button and try again.

2. TANK WILL NOT HOLD WATER

a. Check that drain petcock at base of pump is closed.

b. Check for proper seating of drain valve.

c. Check condition of drain set Sealing Rings.

3. TANK OVERFLOWS - FILLS PAST OVERFLOW

a. Check overflow pipe for obstructions.

b. See that drain line is clear by opening drain valve. If water still does not go down, the drain pipe must be cleaned.

4. WATER LEAKS FROM AROUND DOOR

a. Check for proper seating of door.

b. Check for clogged spray pipes. Clean with brush provided with machine.

5. WEAK OR INEFFECTIVE SPRAY

a. Could be clogged spray pipes - Clean as described above.

b. Check for proper placement of spray pipes, upper pipes should spray down and lower pipes should spray up.

c. Check for rag or other foreign material caught in pump. This may occur when machine is operated without pump suction strainer in place.

d. Check for proper rotation of pump. Arrow on pump indicates direction.

6. INADEQUATE RINSE SPRAY

a. Spray nozzles could be coated with lime and require cleaning.

b. Water pressure may be low. Should be 15 to 20 PSI flowing pressure.

c. Line strainer may be clogged.

d. Check supply valve. It may be closed.

7. RINSE WILL NOT SHUT OFF

a. Disassemble rinse valve and clean internal parts of lime and scale. Also check disc and seat for wear - replace if necessary.

b. Check that power is released from solenoid type valves at end of cycle.

8. WATER HAMMER

a. Check for excess line pressure.

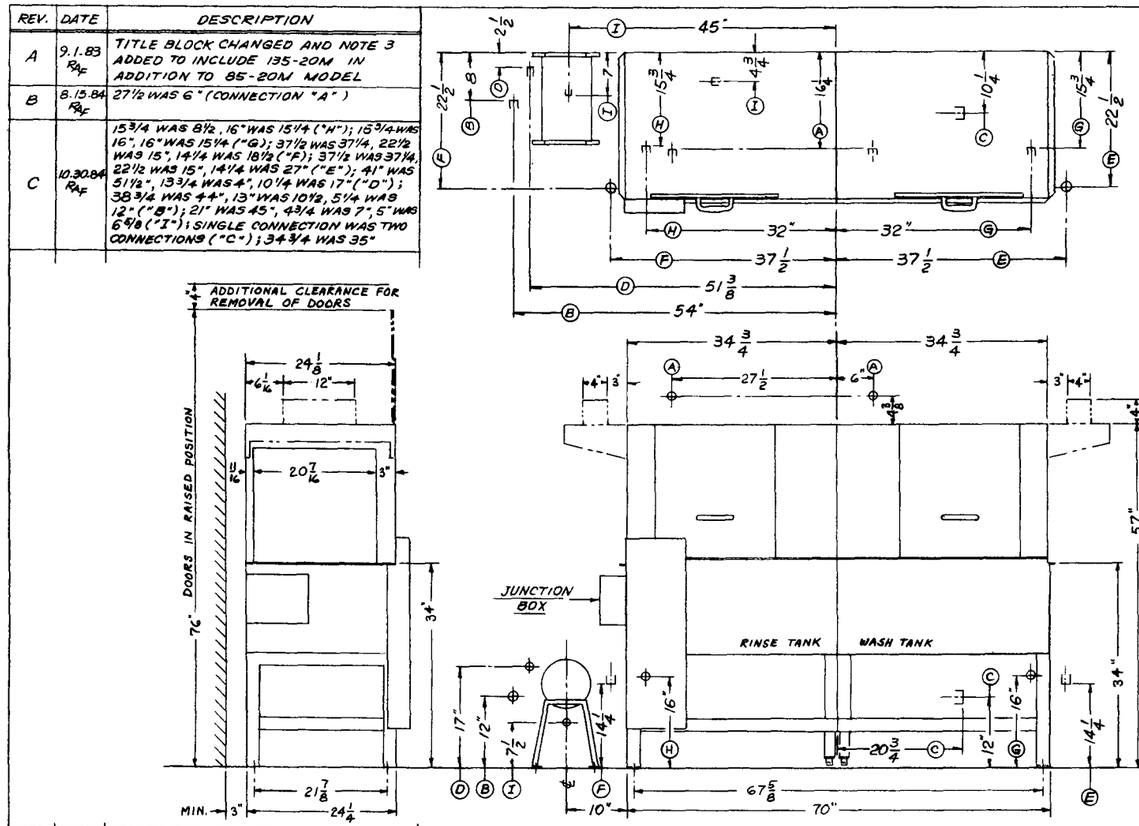
b. Shock absorbing air chambers may be required.

9. MACHINE VIBRATES OR IS NOISY

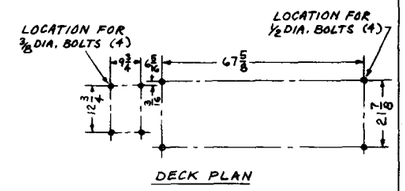
a. Impeller may have become unbalanced.

b. Foreign object inside pump.

REV.	DATE	DESCRIPTION
A	9.1.83 RAF	TITLE BLOCK CHANGED AND NOTE 3 ADDED TO INCLUDE 135-20M IN ADDITION TO 85-20M MODEL
B	8.15.84 RAF	27½ WAS 6" (CONNECTION "A")
C	10.30.84 RAF	15 3/4 WAS 8½, 16" WAS 15¼ ("H"); 18 3/4 WAS 16", 16" WAS 15¼ ("G"); 37½ WAS 37¼, 22½ WAS 15", 14¼ WAS 18½ ("F"); 37½ WAS 37¼, 22½ WAS 15", 14¼ WAS 27" ("E"); 41" WAS 51½", 13 3/4 WAS 4", 10¼ WAS 17" ("D"); 38 3/4 WAS 44", 13" WAS 10½, 5¼ WAS 12" ("B"); 21" WAS 45", 43/4 WAS 7", 5" WAS 6 5/8 ("I"); SINGLE CONNECTION WAS TWO CONNECTIONS ("C"); 34 3/4 WAS 35"



INSTALLATION CONNECTIONS		
LTR	DESCRIPTION	SIZE
A	HOT WATER TO TANK FILLS	½ FIPS
B	HOT WATER TO BOOSTER	3/4 FIPS
C	DRAIN CONNECTION	2" FIPS
D	STEAM TO BOOSTER	½ FIPS
E	STEAM TO WASH TANK COIL	3/4 FIPS
F	STEAM TO RINSE TANK COIL	3/4 FIPS
G	CONDENSATE RETURN - WASH TANK	3/8 FIPS
H	CONDENSATE RETURN - RINSE TANK	3/8 FIPS
I	CONDENSATE RETURN - BOOSTER	3/8 FIPS



DECK PLAN

NOTE:

1. MOTOR CONTROLLER IS SHIPPED SEPARATE FOR BULKHEAD MOUNTING. CONNECT TO JUNCTION BOX PER WIRING DIAGRAM FURNISHED INSIDE CONTROLLER.
2. DISHWASHER IS DESIGNED TO GO THRU A 26" x 66" DOOR OPENING.

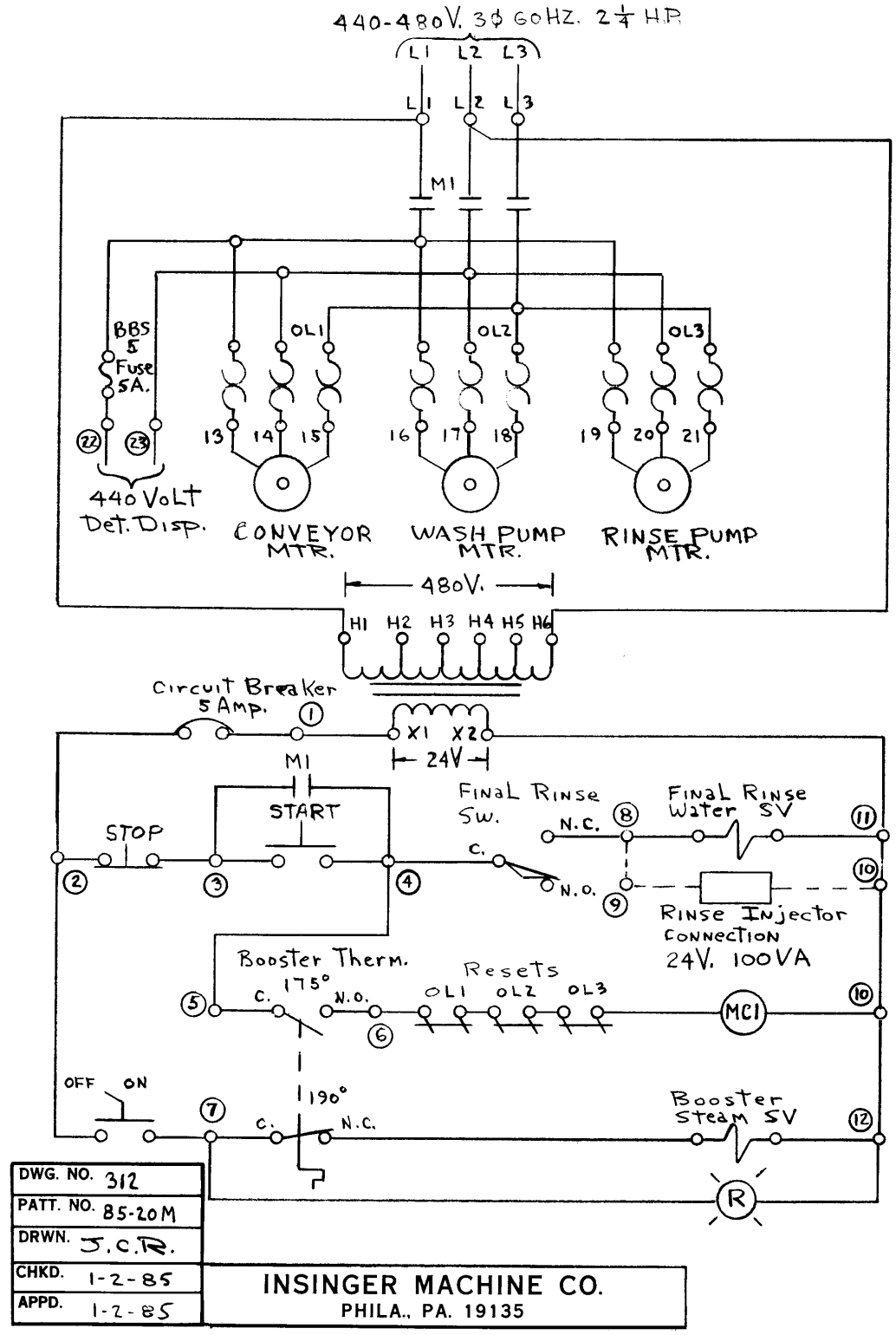
REV.	DATE	DESCRIPTION
D	4.7.86 RAF	45" WAS 21", 7½ WAS 5", 7" WAS 4 3/4 ("I"); 51 3/8 WAS 41", 17" WAS 10¼, 2½ WAS 13 3/4 ("D"); 54" WAS 38 3/4, 12" WAS 5¼, 8" WAS 13" ("B")

RIGHT TO LEFT FEED - SHOWN
LEFT TO RIGHT FEED - OPPOSITE

3. DISHWASHER MODEL NOS.

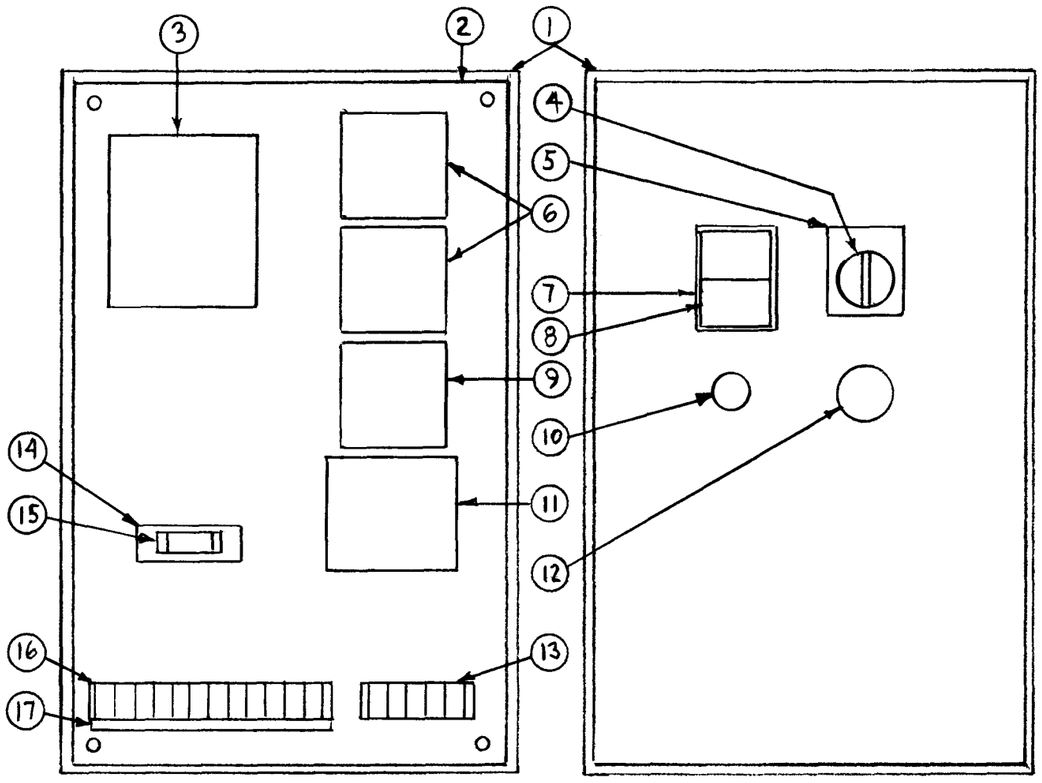
60-20-M-NSU
85-20-M-NSU
135-20-M-NSU
185-20-M-NSU
250-20-M-NSU

MODULAR DISHWASHER FOR NAVAL SHIPBOARD USE	REV. D
INSINGER MACHINE CO. PHILA., PA. 19135	
DRWN. B.F. 1.4.82	DWG. NO. 8201D
CHKD.	
APPD.	



ELECTRICAL CONTROL CIRCUIT

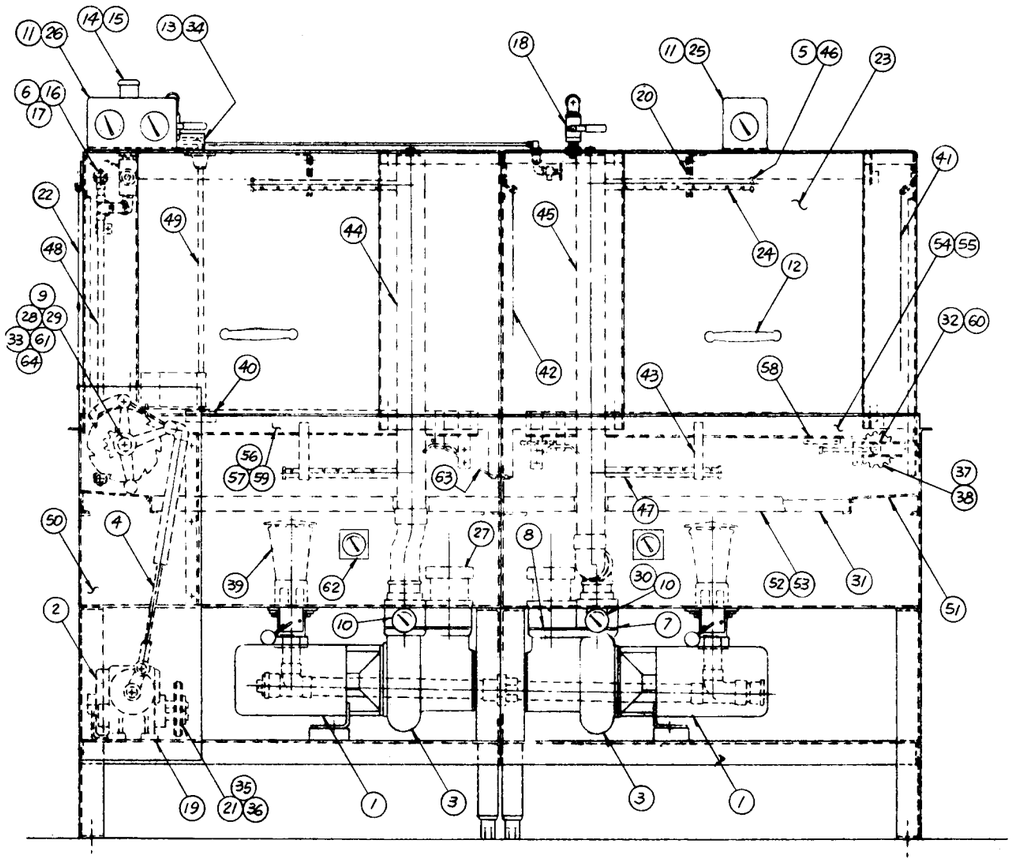
NO.	PART	PART NO.	QTY.
1	Control Box	DE9-36	1
2	Component Plate	DE9-36A	1
3	Transformer	DE6-9	1
4	Switch	DE5-31	1
5	Switch Bezel	DE5-31A	1
6	Overload Relay	DE2-26	2
7	Pushbutton Boot	DE5-32A	1
8	Pushbutton	DE5-32	1
9	Overload Relay	DE2-27	1
10	Circuit Breaker	DE9-34	1
11	Contactor	DE1-50	1
12	Pilot Light	DE9-78	1
13	Terminal Block	DE3-26	1
14	Fuse Holder	DE9-42	1
15	Fuse	DE9-47	1
16	Terminal Block	DE3-7	1
17	Terminal Marker	DE9-20	1



COVER REMOVED COVER

Complete Control PART No. 312

MACHINE 85-20 M-NSU			DWG. NO. SK2677
TITLE Electrical Control			PATT. NO.
MAT'L -	REQ. -	SCALE -	DRWN. J.C.R.
INSINGER MACHINE CO. PHILA., PA. 19135			CHKD. 1-2-85
			APPD.



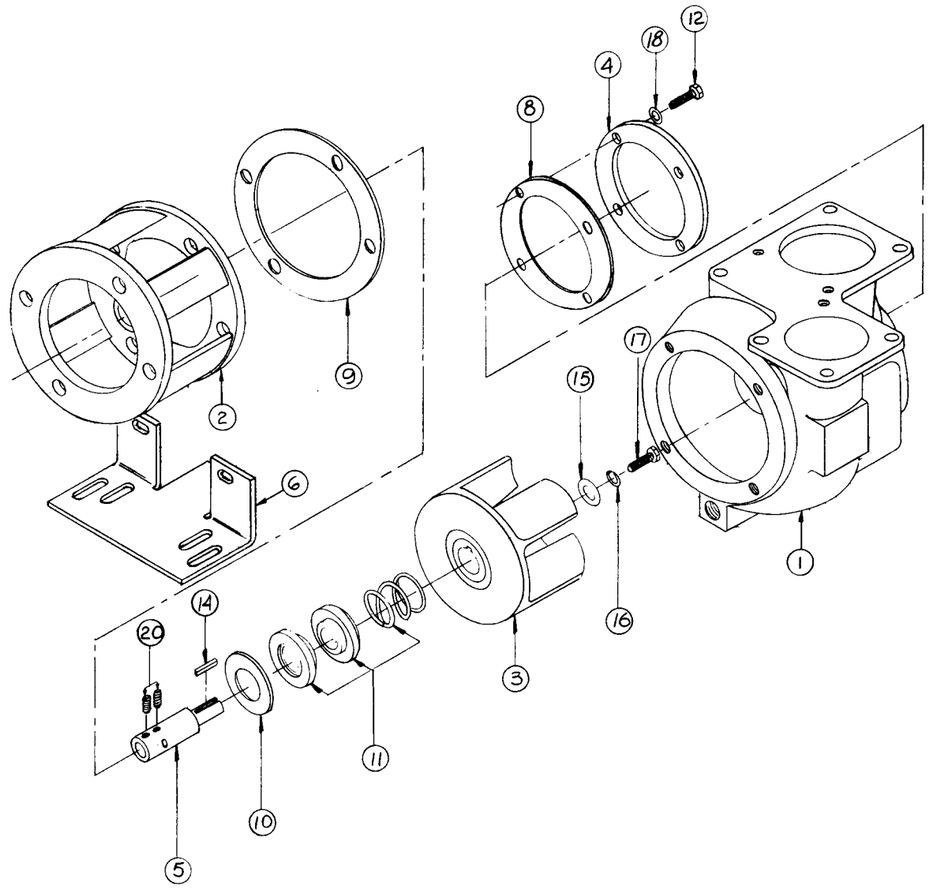
PARTS LIST — MODULAR DISHWASHER FOR NAVAL SHIPBOARD USE

Item	Part No.	Part Name	Req.
1	*	Motor *D2468GF3B1BG	2
2	**	Motor **D2467CG3B1AB	1
3	D2471A	Pump	2
4	SK2129	Drive Mech. Assy. (see parts list)	1
5	D2-554-3	Pipe Plug 3/4	12
6	D2-554-2	Pipe Plug 1/2	2
7	D-514	Discharge Gasket	4
8	D-530	Suction Gasket	4
9	975-56F	Bushing, Conv. Drive — Front	1
10	D-1003	Pressure Gauge	2
11	D-2390	Thermometer	3
12	D-2099	Door Handle	2
13	D-2215A	Microswitch	1
14	D-2241	Vacuum Breaker 1/2"	1
15	D-2242	Vacuum Breaker Poppet Disc 1/2	1
16	D-2286	Spray Nozzle	6
17	975-51	Spray Pipe — Final Rinse	2
18	D-2339	Ball Valve 1/2	2
□19	D-2387-2	Reduction Gear	1
20	D-2349	Latch Assy. (spray pipe)	2
21	D2-503	V-Belt	1
22	D-576	Curtain — Rinse	1
23	975-47	Door	2
24	D2-716	Door Latch	2
25	D2-754	Thermometer Guard	1
26	D2-755	Thermometer Guard	1
27	D2-541	Suction Strainer	2
28	D2-104	Shaft Bearing — Front	1
29	975-58	Shaft Bearing — Rear	1
30	D3-823A	Press. Gauge Sup't Brk't	1
31	120-6-54	Scrap Screen	4
32	975-42	Driven Sprocket	2
33	975-55	Drive Sprocket	2
34	816-58	Spring, Rinse Lever	1
35	818-15	Motor Pulley	1
36	818-16	Reducer Pulley	1
37	975-68	Conveyor Chain — Rear	1
38	975-67	Conveyor Chain — Front	1
39	954-1A	Drain Ass'y. (see parts list)	2
40	951-31	Rinse Lever Bkt. Lower	1
41	975-10	Curtain — Wash (Enter)	1
42	975-11	Curtain — Center	1
43	975-26	Spray Pipe Cradle	2
44	975-14	Discharge Tube Assy.	1
45	975-15	Discharge Tube Assy.	1
46	975-12	Manifold Assy. — Upper	2
47	975-13	Manifold Assy. — Lower	2
48	975-109	Final Rinse Inside Piping	1
49	975-28A	Rinse Lever & Shaft Assy.	1
50	975-27	Mechanism Guard	1
51	975-29	Scrap Screen Spacer — Ends	2
52	975-31	Scrap Screen Spacer — Back	2
53	975-30	Scrap Screen Spacer — Front	2
54	975-88	Track — Front Wash	1
55	975-89	Track — Rear Wash	1
56	975-90	Track — Front Rinse	1
57	975-91	Track — Rear Rinse	1
58	975-33	Track Support Wash	1
59	975-34	Track Support Rinse	1
60	975-41	Conveyor Follower Shaft	1
61	975-48	Conveyor Drive Shaft	1
62	D-924A	Water Level Indicator	2
63	975-81	Lower Baffle	1
64	975-56R	Bushing, Conv. Drive — Rear	1

□ For 60-20M Dishwasher only use Part No. D2387-3

INSINGER MACHINE CO.
PHILA., PA. 19135 (215) 624-4800

SK-2670
Rpt 2.1.85



INSINGER MODEL 2½ SUP PUMP ASSEMBLY

ITEM	PART NO.	NAME OF PART	REQ.
1	UP-1	PUMP BODY	1
2	D-435	ADAPTER	1
3	SUP-2	IMPELLER	1
4	SUP-3	END COVER PLATE	1
5	D3-805	PUMP SHAFT	1
6	D3-816	MOUNTING BRACKET	1
7			
8	UP-8	END COVER GASKET	1
9	UP-9	HOUSING COVER GASKET	1
10	UP-13	FLINGER	1
11	UP-15	CERAMIC SEAL	1
12	UP-19	END COVER BOLT	12
13			
14		KEY	1
15		WASHER	1
16		LOCK WASHER	1
17		IMPELLER BOLT	1
18		WASHER	12
19			
20		SET SCREW	2

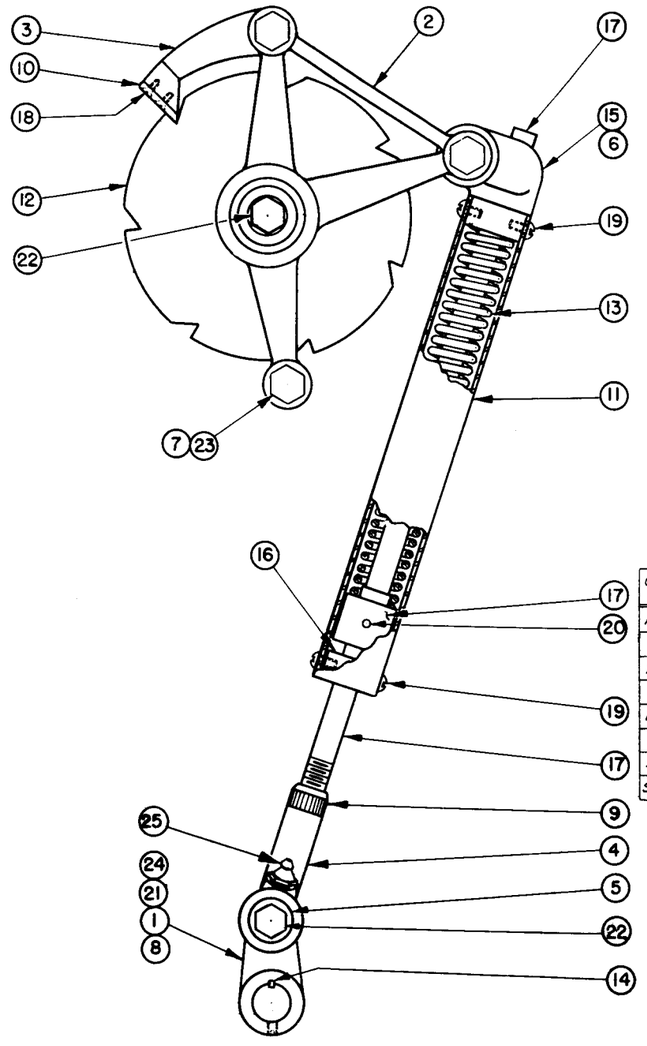
PART NO. D2471A FOR COMPLETE ASSEMBLY

INSINGER MACHINE CO.
PHILA., PA. 19135

SK NO. 2456 A

B.F. 4.23.82

INSINGERMODEL 2 1/2 SUP PUMP ASSEMBLY



PART LIST
DRIVE MECHANISM ASSEMBLY

ITEM	PART NO.	NAME		REQ.
* 1	MA30	CRANK ARM		1
2	D-104	ROCKER ARM R. OR L.		2
3	D-156	PAWL		1
4	D-176	CONNECTION ROD LOWER & ASSEMBLY		1
5	D-201	BUSHING		1
6	D-205	BUSHING COMPRESSION DRIVE TUBE END		1
7	D-805	ROCKER ARM BUSHING		3
8	D-816	CRANK ARM PIN		1
9	D-856A	NUT		1
10	D-863	PAWL SHOE BLANK		1
11	D-887A	COMPRESSION DRIVE TUBE		1
◊ 12	D-1036	RATCHET		1
13	D2-815	COMPRESSION DRIVE SPRING		1
14	11	KEY WOODRUFF		1
15	251-72	COMPRESSION DRIVE TUBE END		1
16	251-73	COMPRESSION DRIVE SPRING RETAINING RING		1
17	512-236	COMPRESSION DRIVE PLUNGER		1
18		FL. HEAD MACHINE SCREW	STL.ST. 10-32 X 1/2 LG.	2
19		SCREW	STL.ST. 10-32 X 5/16 LG.	4
20		PIN - RIVET OVER	5/32 X 15/16	1
21		TAPER PIN	#3 X 1 1/4 LG.	1
22		BOLT	5/16-18 X 7/8 LG.	2
23		BOLT	7/16-20 X 1 1/2 LG.	3
24		SETSCREW	5/16-18 X 5/16 LG.	1
25		ALEMITE FITTING	1/8 IPS	1

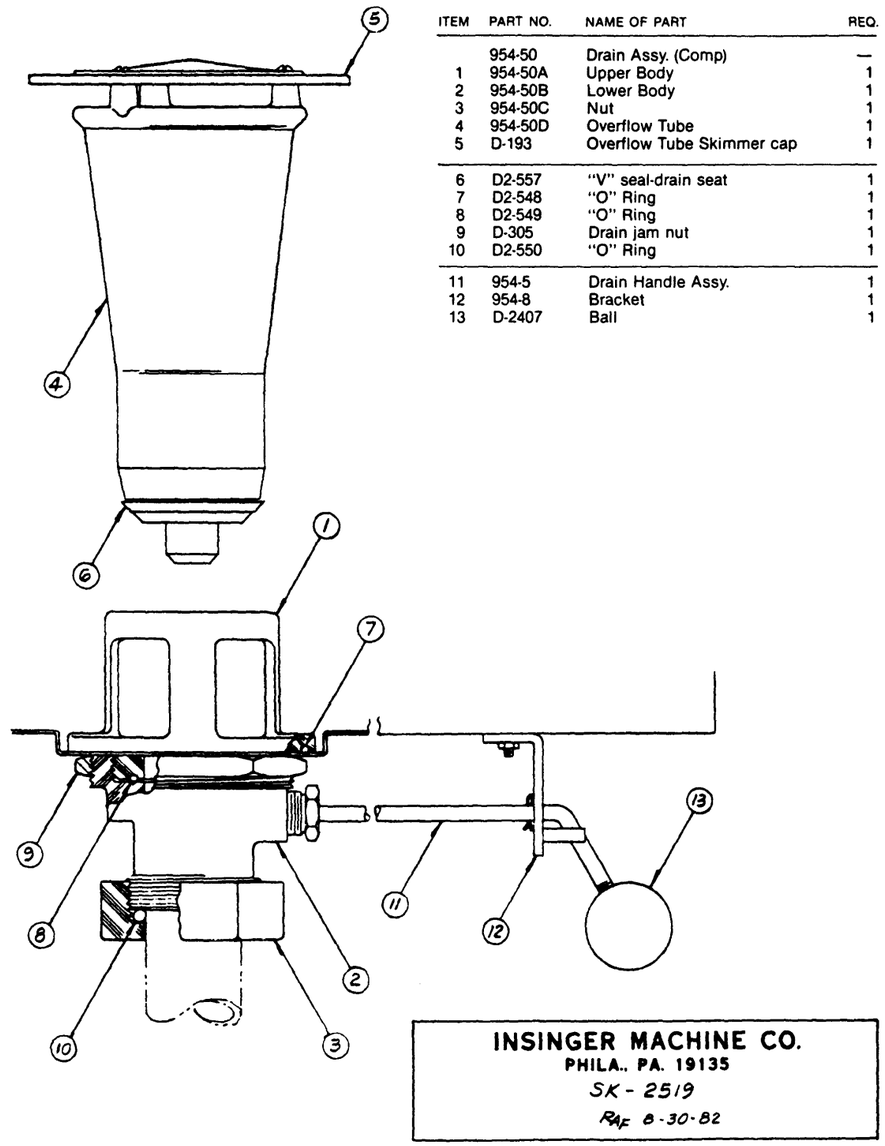
COMMERCIAL MODEL	GOV'T. MODEL	* CRANK ARM CENTER DISTANCE	◊ RATCHET NO. OF TEETH
120-7 & 66-2	60-20	1 7/8	10
	85-20	1 7/16	15
MINIFLITE S	135-20	1 7/8	10
	165-20	1 7/8	8
MINIFLITE D	180-20	2 7/32	7
	185-20	2 7/32	7
SPDR 6 & 86-2	250-20	2 7/16	6
SUPER 9 & 106-2	275-20	2 7/16	6

THE INSINGER MACHINE CO.
PHILADELPHIA 35, PA.

SK-2129
B.F. 10.17.73

DRIVE MECHANISM ASSEMBLY WITH PARTS LIST

DRAIN ASSEMBLY

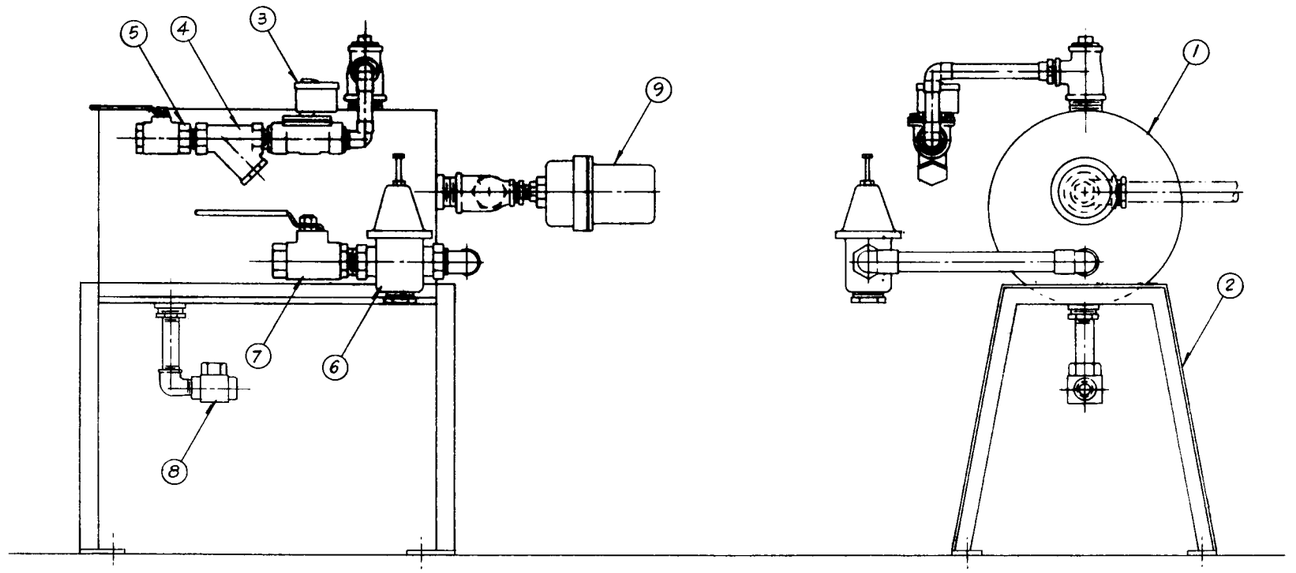


ITEM	PART NO.	NAME OF PART	REQ.
	954-50	Drain Assy. (Comp)	—
1	954-50A	Upper Body	1
2	954-50B	Lower Body	1
3	954-50C	Nut	1
4	954-50D	Overflow Tube	1
5	D-193	Overflow Tube Skimmer cap	1
6	D2-557	"V" seal-drain seat	1
7	D2-548	"O" Ring	1
8	D2-549	"O" Ring	1
9	D-305	Drain jam nut	1
10	D2-550	"O" Ring	1
11	954-5	Drain Handle Assy.	1
12	954-8	Bracket	1
13	D-2407	Ball	1

PARTS LIST - STEAM BOOSTER ASS'Y.

	NO.	DESCRIPTION	PART NO.	QTY.	NO.	DESCRIPTION	PART NO.	QTY.
*	1	INSINGER STEAM BOOSTER	D-2526	1	6	PRESS. REG. & STRAINER 3/4 IPS	D-2508	1
	2	BOOSTER STAND	278-1B	1	7	BALL VALVE 3/4 IPS	D-2340	1
	3	SOLENOID VALVE 3/4 IPS	D-2490	1	8	STEAM TRAP 3/8 IPS	D-2102	1
	4	"Y" STRAINER 1/2 IPS	D-2483	1	9	THERMOSTAT 3/8 IPS	D-2301	1
	5	BALL VALVE 1/2 IPS	D-2339	1				

* ADD SUFFIX "NM" FOR NON-MAGNETIC MACHINE



STEAM BOOSTER ASSEMBLY WITH PARTS LIST

CHAPTER 7

RECOMMENDED ON BOARD REPAIR PARTS FOR MODULAR DISHWASHERS

MODEL NUMBERS:

60-20M-NSU

85-20M-NSU

135-20M-NSU

185-20M-NSU

250-20M-NSU

Description

PART NUMBER	NAME OF PART	QTY.
Provide Model & Serial Number	* Motor - D2467CG3B1AB	1
SK 2129	* Drive Mechanism Assembly	1
D2-554-3	Pipe Cap 3/4″	2
D2-554-2	Pipe Cap 1/2″	2
D-514	Discharge Gasket	2
D-530	Suction Gasket	2
D-1003	Pressure Gauge	2
D-2390	Thermometer	3
D-2099	Door Handle	2
D-2215A	Microswitch	1
D-2241	Vacuum Breaker 1/2″	1
D-2286	Spray Nozzle	2
D-2387-2	Reduction Gear	1
D-2-503	V Belt	1
D-2523S	Curtain Set w/rods	1
2-130S	Drive & Driven Assembly Kit	1
D2-541	Suction Strainer	1
D3-823A	Pressure Gauge Support Bracket	2
975-68	* Conveyor Chain w/lugs	1
D-924	Water Level Indicators	2
D-907A	Thermostatic Cutoff	1
D-2301	Temperature Regulator for Steam (Booster Control)	1
D-2267A	Temperature Control Rinse Tank	1
951-101	Overflow Repair Kit	2
SUP-2	Impeller	1
951-100	Pump Repair Kits	4
312	Complete Control Assembly	1

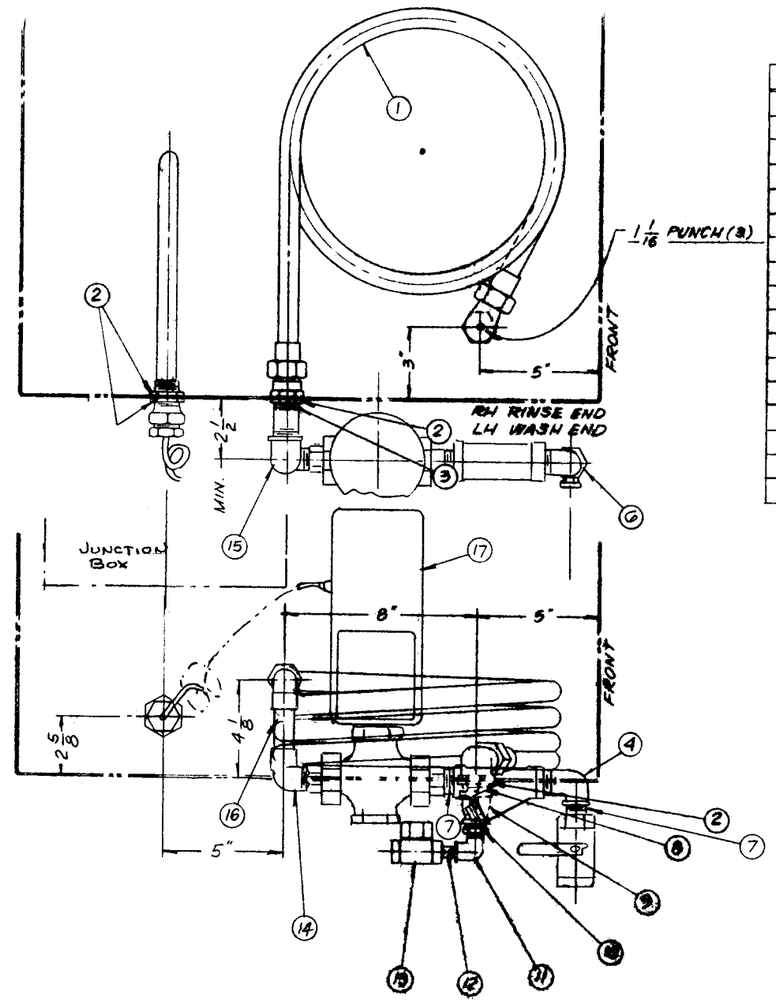
*Always specify model and serial number when ordering parts.

CHAPTER 8

LIST OF STANDARD PARTS

List of Standard Parts

NAME OF PART	INSINGER PART NO.	MANUFACTURER	MANUFACTURER'S PART NO.
MOTOR 1 HP-3 PHASE	D2468GF3B2BG	MARATHON ELECTRIC CO. *Wausau, Wisc.*	56T17F186
MOTOR 1/4 HP-3 PHASE	D2467CG3B2AA	BALDOR ELECTRIC CO. *Ft. Smith Ark.*	MB454
CONTACTOR	DE1-20	FURNAS ELECTRIC CO. *Batavia, Ill.*	42BE25AJ
OVERLOAD	DE2-10	FURNAS ELECTRIC CO. *Batavia, Ill.*	48DC37AA4
HEATER COIL	DE9-14	FURNAS ELECTRIC CO. *Batavia, Ill.*	MODEL E - Specify Size
PILOT LIGHT	DE8-25	CUTLER-HAMMER *Milwaukee, Wisc.*	10250T-206
PUSHBUTTON	DE8-12	CUTLER-HAMMER *Milwaukee, Wisc.*	10250T101-53X
PUSHBUTTON	DE8-26	CUTLER-HAMMER *Milwaukee, Wisc.*	10250T112-51X
SWITCH	DE8-21	CUTLER-HAMMER *Milwaukee, Wisc.*	10250T1131
CIRCUIT BREAKER	DE9-31	POTTER & BRUMFIELD *Princeton, Ind.*	W58XB1A4A
MICRO SWITCH	D2215A	MINNEAPOLIS-HONEYWELL *Minneapolis, Minn.*	BZE6-2RN
SOLENOID VALVE	D2397	ASCO *Florham Park, NJ*	8210D9-3/4
BYPASS REGULATOR	D2508	WATTS REGULATOR *Lawrence, Mass*	23B



NO.	DESCRIPTION	PART NO. / SIZE	QTY.
1	STEAM COIL 3/4" COPPER	DWG. 281-81	1
2	LOCKNUT 3/4 IPS	D32GA-E1	2
3	NIPPLE 3/4 IPS x 2 1/2" LG.	D314A-E2 x 2 1/2	1
4	90° STREET ELBOW 3/4 IPS	D316A-E1-E2	1
5	"Y" STRAINER 3/4 IPS	D-2482	1
6	BALL VALVE 3/4 IPS	D-2340	1
7	CLOSE NIPPLE 3/4 IPS	D314A-E2	2
8	NIPPLE 3/4 IPS x 1 1/2" LG. FULL THR'D.	D314A-E2 x 1 1/2	1
9	REDUCING COUPLING 3/4 IPS to 1/2 IPS	D321A-E1-D1	1
10	REDUCER 1/2 IPS to 3/8 IPS	D322A-D2-C1	1
11	90° STREET ELBOW 3/8 IPS	D316A-C1-C2	1
12	CLOSE NIPPLE 3/8 IPS	D314A-C2	1
13	STEAM TRAP 3/8 IPS	D-2102	1
14	90° EL 3/4 MIPS x 3/4 C	D316A-E2-E3	1
15	90° EL 3/4 FIPS x 3/4 C	D316A-E1-E3	1
16	TUBING, 3/4 COPPER x 3" LG.	D207A-B6 x 3"	1
17	TEMP. REGULATOR 3/4 IPS	D-2402	1

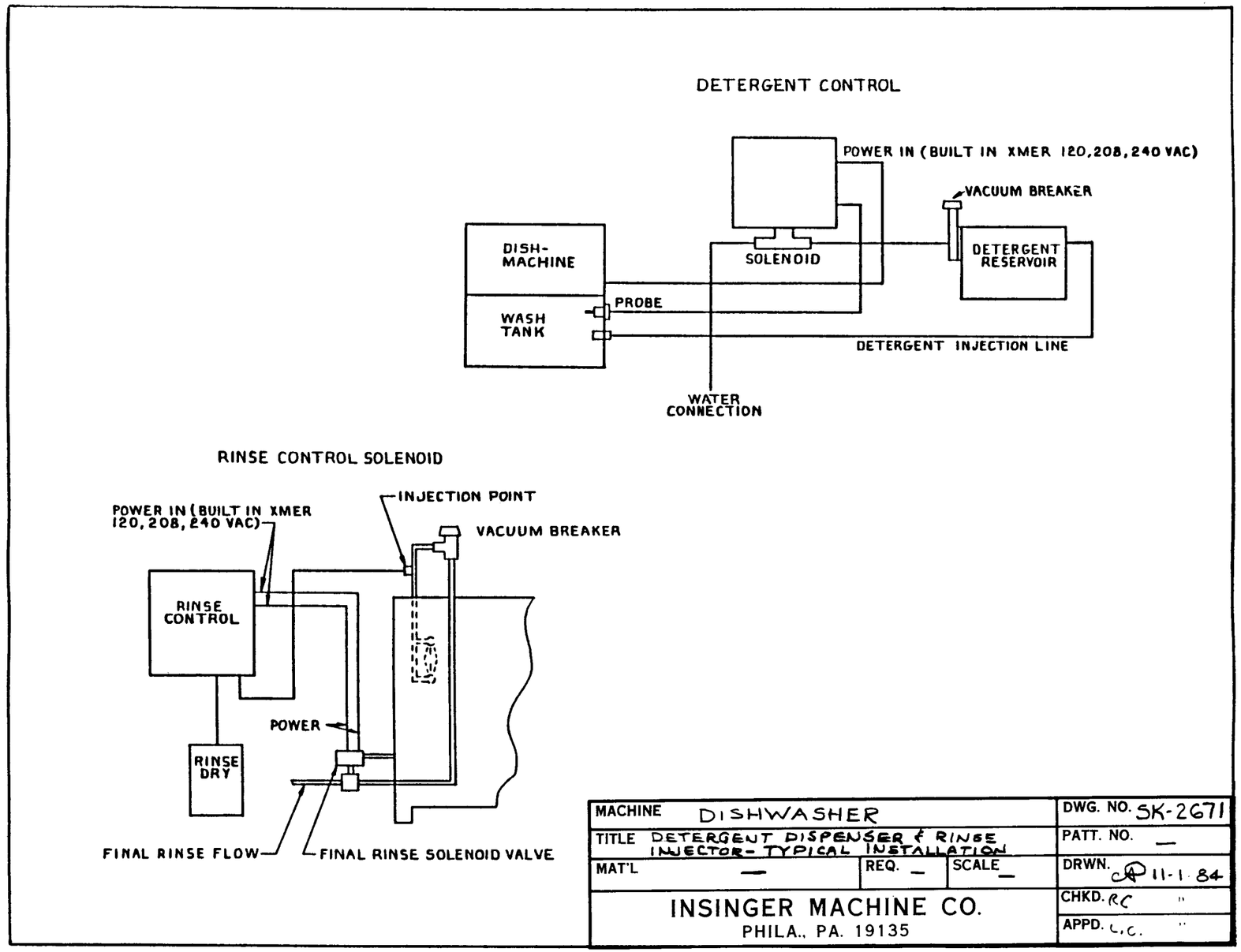
REF. 975-59

RH MACHINE RINSE TANK
LH MACHINE WASH TANK
} SHOWN

LH MACHINE RINSE TANK
RH MACHINE WASH TANK
} OPPOSITE

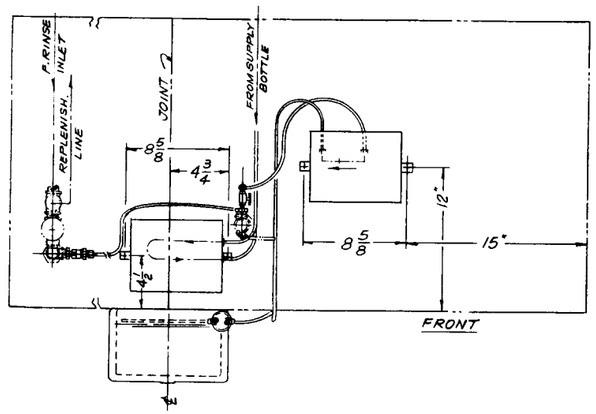
STEAM COIL ASSEMBLY

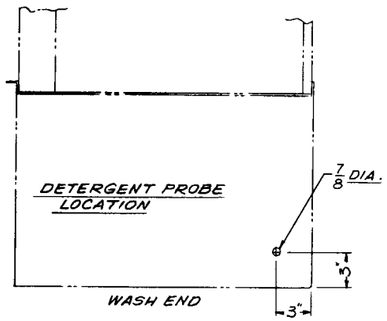
MACHINE	SHIPBOARD MODULAR			DWG. NO. 975-82
TITLE	STEAM COIL ASS'Y			PATT. NO.
MAT'L	NOTED	REQ.	SCALE	DRWN. Ap 2.1.83.
INSINGER MACHINE CO. PHILADELPHIA, PA 19135				CHKD.
				APPD.

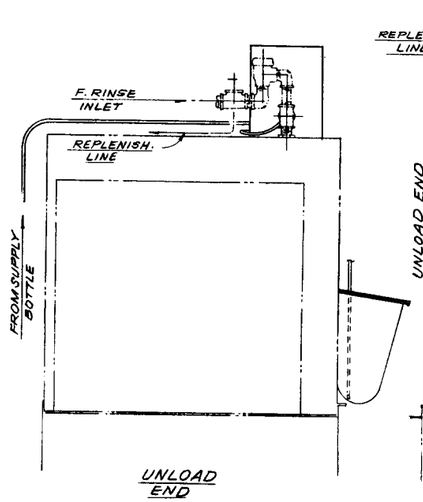


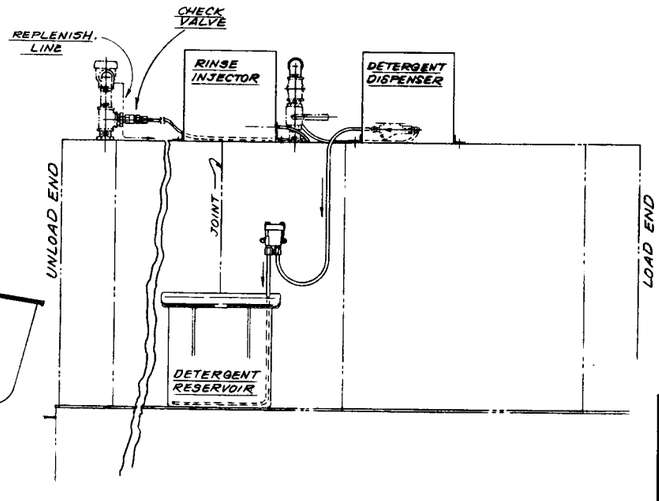
DETERGENT DISPENSER AND RINSE INJECTOR

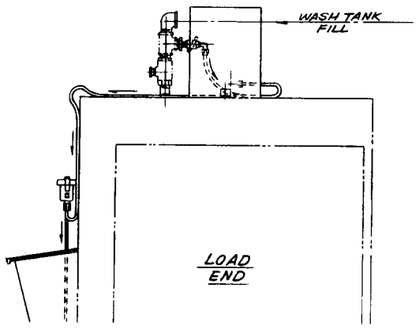
NOTE:
FOR OPERATING INSTRUCTIONS, SEE LITERATURE SUPPLIED WITH DETERGENT DISPENSER AND RINSE INJECTOR!











RH SHOWN - LH OPPOSITE

TOLERANCES FRACTIONS ± 1/64 DECIMAL ± .005 ANGULAR ± 1/2° UNLESS OTHERWISE SPECIFIED	TITLE DETERGENT DISPENSER & RINSE INJECTOR INSTALLATION	PATT. NO. REQ.	DWG. NO. 975-107
	MATL. NOTED	SCALE 1/8	USED ON SHIPBOARD MODULAR
	INSINGER MACHINE CO. PHILA., PA. 19135 (215) 624-4800		RA 12.17.84

INSTALLATION DETERGENT DISPENSER AND RINSE INJECTOR